

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name: Discipline Specific Elective-I (Inheritance Biology)

Subject Code: 4SC05INB1

Branch: B.Sc. (Microbiology)

Semester: 5

Date: 30/11/2018

Time: 10:30 To 01:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
-

Q-1 Attempt the following questions:

(1x14=14)

- a) Who is regarded as the father of genetics?
- b) The physical expression of traits is known as
(genotype/phenotype/allotype)
- c) An allele is a variant form of a gene. True/False
- d) Extra nuclear inheritance is also known as inheritance.
(cytoplasmic/karyoplasmic)
- e) A transposable element is a DNA sequence that can change its position within a genome. True/False
- f) *Drosophila melanogaster* is generally known as (fruit fly /dragon/sweet fly).
- g) Incomplete dominance is a form of intermediate inheritance. True/False
- h) If different alleles are present on same genotype, the condition is known as.....
- i) ABO system of blood groups is controlled by alleles. (one/two/three)
- j) Gene mapping describes the methods used to identify the locus of a gene and the distances between genes. True/False
- k) What is telomere?
- l) Turner syndrome is also known as 45,X0. True/False
- m) Human skin color is a good example of gene inheritance.
(multiple/single/distorted)
- n) is a condition wherein the alleles of a gene pair in a heterozygote are fully expressed. (Codominance/Dominance)

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions

- a) What are model organisms for experimentation? Explain the properties of *E. coli* as model organisms for experimentation. **7**
- b) Briefly explain the law of dominance with suitable example. **7**



Q-3	Write short notes on-	
a.	Crossing over	7
b.	Co-dominance	7
Q-4	Attempt all questions	
a.	Explain the chromosome theory of inheritance.	7
b.	Draw a well labeled diagram of chromosome and explain the structure of it.	7
Q-5	Write short notes on-	
a.	Packaging of DNA	7
b.	Allele	7
Q-6	What do you mean chromosomal variations? Explain the types of chromosomal (number) variations with suitable examples.	(4+10)
Q-7	Attempt all questions	
a.	Write short essay on extra chromosomal inheritance.	7
b.	What are the properties of <i>A. thaliana</i> which makes it a model plant in genetics?	7
Q-8	Write short notes on-	
a.	Homologous recombination	7
b.	Down syndrome	7

